

## CLAIMS:

1. A display system (100,500,600) for displaying images within a vehicle, comprising:

- a display screen (102) for generating a first one of the images and a second one of the images; and

5 - an optical selection screen (104) for selectively passing the first one of the images in a first direction (101) towards a first observer (106) and passing the second one of the images in a second direction (103) towards a second observer (108), the first and second observer (106,108) being located inside the vehicle.

10 2. A display system (100,500,600) as claimed in claim 1, wherein the optical selection screen (104) comprises a number of bars (212-216) and slits (218,220), the slits (218,220) being arranged for passing the first one of the images in the first direction (101) and for passing the second one of the images in the second direction (103) and the bars (212-216) being arranged to obstruct the first one of the images in the second direction (103) and  
15 to obstruct the second one of the images in the first direction (101).

3. A display system (100,500,600) as claimed in claim 2, wherein the display screen (102) comprises a number of light elements (110,112,120,122) each having a first size ( $w_{LE}$ ) and being disposed at a first distance ( $w_B$ ) from each other and wherein a size ( $l$ ) of a  
20 first one of the slits (218) is substantially equal to a sum of the first size ( $w_{LE}$ ) of a first one of the light elements (110) and the first distance ( $w_B$ ).

4. A display system (100,500,600) as claimed in claim 2, wherein the display screen (102) comprises a number of light elements (110,112,120,122), a first one of the light  
25 elements having a first size ( $w_{LE}$ ) and a second size being smaller than the first size, a first one of the slits (218) having a third size and a fourth size being smaller than the third size, the first one of the light elements (110) being oriented with the first size ( $w_{LE}$ ) substantially perpendicular relative to the third size of the first one of the slits (218).

5. A display system (100,500,600) as claimed in claim 1, wherein the optical selection screen (104) comprises a number of lenses (228,230) for selectively passing the first one of the images in the first direction (101) towards the first observer (106) and passing the second one of the images in the second direction (103) towards the second observer (108)

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6. A display system (100,500,600) as claimed in claim 5, wherein the display screen (102) comprises a number of light elements (110,112,120,122) each having a first size ( $w_{LE}$ ) and being disposed at a first distance ( $w_b$ ) from each other and wherein a second distance ( $d$ ) between a first one of the lenses (228) to a first one of the light elements (110) which belongs to the first one of the lenses (228) is substantially different from a focal length ( $f$ ) of the first one of the lenses (228).

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7. A display system (100,500,600) as claimed in claim 5, wherein the display screen (102) comprises a number of light elements (110,112,120,122), a first one of the light elements (110) having a first size ( $w_{LE}$ ) and a second size being smaller than the first size, a first one of the lenses (228) having a third size and a fourth size being smaller than the third size, the first one of the light elements (110) being oriented with the first size ( $w_{LE}$ ) substantially perpendicular relative to the third size of the first one of the lenses (228).

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8. A display system (100,500,600) as claimed in claim 1, comprising receiving means (506) for receiving positional information of the first observer (106) and wherein the display screen (102) is a passive display screen (102) comprising a directed back-light (502) being controlled on basis of the positional information of the first observer (106).

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9. A display system (100,500,600) as claimed in claim 1, wherein the display screen (102) is arranged to generate a third one of the images and wherein the display screen (102) comprises a switching unit (602) to switch the optical selection unit (104) from:

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- a multi-view state of selectively passing the first one of the images in the first direction (101) and passing the second one of the images in the second direction (103); to

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- a single-view state of passing the third one of the images in the first direction (101) and in the second direction (103).

10. A display system (100,500,600) as claimed in claim 9, wherein the optical selection screen (104) comprises a number of bars (212-216) which are designed to be switched between a transparent state and a non-transparent state.

5 11. A display system (100,500,600) as claimed in claim 10, wherein the bars (212-216) are switched between the transparent state and the non-transparent state on basis of an electric or magnetic field.

12. A display system (100,500,600) as claimed in claim 9, wherein the optical  
10 selection screen (104) comprises a number of lenses (702-712) being placed within a reservoir (700) in which a liquid having a first refractive index which is substantially equal to a second refractive index of a material of the lenses (702-712), can be put and drawn off to switch the optical selection unit (104) between the single-view state and the multi-view state, respectively.

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13. A vehicle comprising the display system (100,500,600) for displaying images, as claimed in claim 1.

14. A vehicle comprising the display system (100,500,600) for displaying images,  
20 as claimed in claim 9, comprising a sensor for detecting whether the second observer (108) is present or not and for controlling the switching unit.